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Ministry of
Northern Development
and Mines

Ontario

Sean Conway, Minister of Mines

ONTARIO GEOLOGICAL SURVEY

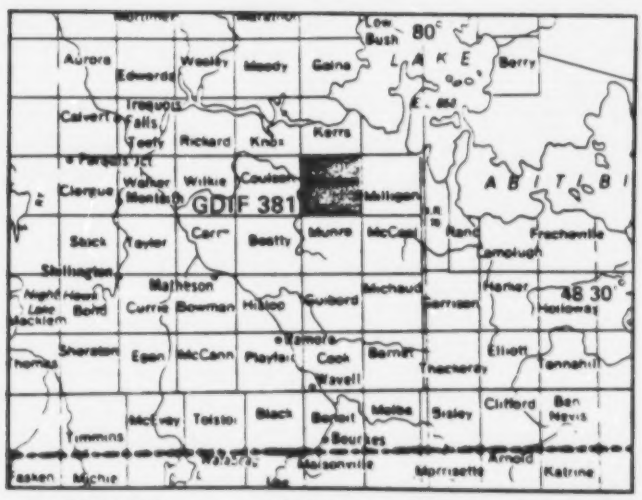
GEOLOGICAL DATA INVENTORY FOLIO

GDIF 381

WARDEN TOWNSHIP

DISTRICT OF COCHRANE

Compiled by the Staff of
the Resident Geologist's Office
Kirkland Lake



LOCATION MAP

Scale: 1:1 013 760 or 1 inch to 16 miles

88-02295/

NTS Number 42A/09

Mining Claim Map Number

This project is part of Operation Black River-Matheson (BRIM) and was funded equally by the Ontario Ministry of Northern Development and Mines and the Ontario Ministry of Natural Resources.

STATEMENT: This inventory is unedited. Discrepancies may occur for which the Ontario Geological Survey does not assume liability. Information from this source may be quoted if credit is given. Reference to this inventory should be made as follows:

Ontario Geological Survey
1988: Warden Township, District of Cochrane; Ontario Geological Survey, Geological Data Inventory Folio 381, compiled by the staff of the Resident Geologist's Office, Kirkland Lake, 36 p, and 2 maps.

Original Compilation by: Dave Mimeault, Kamal D. Kalicharran, Faye Boucher, and Pamela Savarie

Date	Page Revised	Revised by

Date	Page Revised	Revised by

WARDEN TOWNSHIP

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ACCOMPANYING MAPS

Property Location Map 1
Exploration Data Map 1
Map Scale 1: 31 680 or 1 inch to ½ mile

CONVERSION FACTORS FOR MEASUREMENTS IN ONTARIO GEOLOGICAL SURVEY PUBLICATIONS

If the reader wishes to convert imperial units to SI (metric) units or SI units to imperial units the following multipliers should be used:

CONVERSION FROM SI TO IMPERIAL			CONVERSION FROM IMPERIAL TO SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
			LENGTH		
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709 7	chains	1 chain	**20.116 8**	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
			AREA		
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	**2.589 988**	km^2
1 ha	2.471 054	acres	1 acre	**0.404 685 6**	ha
			VOLUME		
1 cm^3	0.061 02	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	**0.028 316 85**	m^3
1 m^3	1.308 0	cubic yards	1 cubic yard	**0.764 555**	m^3
			CAPACITY		
1 L	1.759 755	pints	1 pint	**0.568 261**	L
1 L	0.879 877	quarts	1 quart	**1.136 522**	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
			MASS		
1 g	0 035 273 96	ounces (avdp)	1 ounce (avdp)	**28.349 523**	g
1 g	0.032 150 75	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 62	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0 001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0 000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 908 8**	t
			CONCENTRATION		
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	**34.285 714 2**	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	**1.714 285 7**	g/t

OTHER USEFUL CONVERSION FACTORS

1 ounce (troy)/ton (short)	20.0	pennyweights/ton (short)
1 pennyweight/ton (short)	0.05	ounce (troy)/ton (short)

One gram(g) per tonne is equivalent to one part per million (1 ppm).

NOTE–Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries published by The Mining Association of Canada in co-operation with the Coal Association of Canada.

DATA SOURCES CHECK LIST

NOTE: The following sources have been searched to compile the data for this area. If no reference data was found the appropriate box is marked 'no'; if reference data was found, the box is marked 'yes'.

All reference data found are included in the following pages. If the box is blank, the data source has not yet been searched. If the box is marked N.A., the source item is Not Applicable to this area and therefore not searched.

	SOURCES OF DATA	Data	Initial
1	Resident Geologist's Office Files	YES	D.M.
2	Assessment Files Research Office, Toronto	YES	D.M.
3	ODM General Index; 9 volumes	YES	D.M.
4	Catalogue of Airborne Geophysical Surveys (ODM)	NO	D.M.
5	ODM Mineral Resources Circulars and OGS Mineral Deposits Circulars	NO	D.M.
6	ODM Industrial Mineral Reports	NO	D.M.
7	Bibliography of Post Precambrian Theses - Karrow (ODM MP 1)	NO	D.M.
8	Bibliography of Precambrian Theses - Ginn (ODM MP 2)	NO	D.M.
9	Newspaper Clippings File	YES	D.M.
10	GSC Index to Publications	NO	D.M.
11	OGS Index to Published Maps and Reports - MP 77 and Supplements to MP 77	YES	D.M.
12	OGS Index Maps	YES	D.M.
13	Source Mineral Deposit Records (O.G.S.)	YES	D.M.
14	Author - Subject Articles File	YES	D.M.
15	Miscellaneous Papers: ODM & OGS	YES	D.M.
16	ODM Geological Circulars OGS Study Series	YES	D.M.
17	ODM Preliminary Reports ODM Bulletins	YES	D.M.
18	ODM – OGS Open File Reports	YES	D.M.
19	OGS Northern Ontario Engineering Geology Terrain Studies	YES	D.M.
20	OGS Aggregate Resources Inventory Papers	NO	D.M.
21	OGS Mineral Potential Maps	NO	D.M.

METALS AND MINERALS REFERENCES LIST

△ anh. . . . . .Anhydrite
△ ank. . . . . .Ankerite
△ anna . . . . . Annabergite
△ ap. . . . . .Apatite
△ arg . . . . . Argentite
△ As . . . . . .Arsenic
△ asp . . . . . .Arsenopyrite
▲ asb . . . . . .Asbestos
△ ba. . . . . .Barite
△ be. . . . . .Beryl
△ Bi. . . . . .Bismuth
△ bn . . . . . .Bornite
△ bran . . . . . .Brannerite
▲ bruc . . . . . .Brucite
△ Cd . . . . . Cadmium
▲ calc. . . . . Calcite
▲ carb . . . . . .Carbonate
△ cel . . . . . .Celestite
△ cc. . . . . .Chalcocite
▲ cp. . . . . .Chalcopyrite
△ ch. . . . . .Chert
△ clay . . . . . .Clay
▲ Co . . . . . Cobalt
△ cob. . . . . Cobaltite
△ cb. . . . . .Columbite
▲ Cu . . . . . .Copper
△ cor . . . . . Corundum
△ dol . . . . . Dolomite
△ ep. . . . . Epidote
△ ery . . . . . Erythrite
△ fel . . . . . .Feldspar
△ fl . . . . . .Fluorite (flurospar)
△ fu. . . . . .Fuchsite
△ gn. . . . . .Galena
△ gt. . . . . .Garnet
△ goe . . . . . .Goethite
▲ Au . . . . . Gold
▲ gf. . . . . .Graphite
△ gl . . . . . Gravel
△ gyp. . . . . .Gypsum
△ hem . . . . . Hematite
△ il . . . . . Ilmenite
△ Fe . . . . . .Iron
△ IF. . . . . Iron Formation
△ jas . . . . . Jasper
△ kaol . . . . . .Kaolinite (kaolin)
△ ky . . . . . Kyanite
△ Pb . . . . . Lead
△ lim . . . . . Limonite
△ Li. . . . . Lithium
△ mgst . . . . . .Magnesite
▲ mag . . . . . .Magnetite
▲ mc . . . . . .Malachite
△ Mn . . . . . Manganese
△ mb . . . . . .Marble
▲ mar. . . . . Marcasite
△ ma . . . . . .Marl
△ mi . . . . . Mica
△ ml . . . . . .Millerite
△ mo . . . . . .Molybdenite
△ Mo . . . . . .Molybdenum
△ mon . . . . . Monazite
△ ne. . . . . Nephelite (nepheline)
△ nc. . . . . .Niccolite
▲ Ni. . . . . Nickel
△ Nb . . . . . .Niobium
△ Pd . . . . . .Palladium
△ peat . . . . . .Peat
△ pent . . . . . .Pentlandite
△ Pt. . . . . .Platinum
▲ py . . . . . .Pyrite
△ pyl . . . . . Pyrochlore
△ pyrl . . . . . .Pyrolusite
▲ po . . . . . .Pyrrhotite
▲ q . . . . . Quartz
▲ qcv . . . . .Quartz carbonate vein
△ ra. . . . . .Radioactive minerals
△ RE . . . . . .Rare Earths
△ sd. . . . . Sand
△ sgl . . . . . Sand and gravel
△ ss . . . . . .Sandstone
△ scap . . . . . Scapolite
△ shee . . . . . .Scheelite
▲ serp . . . . . Serpentine
△ sh. . . . . Shale
△ sid . . . . . Siderite
△ si . . . . . Silica
△ Ag . . . . . .Silver
△ sl . . . . . Slate
△ sm . . . . . .Smaltite
△ sod . . . . . Sodalite
△ spec . . . . . Specularite
▲ sp. . . . . .Sphalerite
△ spd . . . . . .Spodumene
△ staur . . . . . .Staurolite
△ stib. . . . . Stibnite
△ st . . . . . .Stone
▲ talc. . . . . .Talc
△ Te . . . . . .Tellurium
△ td. . . . . Tetrahedrite
△ th. . . . . .Thorite
△ Th . . . . . .Thorium
△ thuc . . . . . Thucholite
△ ti . . . . . Titanite
△ Ti. . . . . Titanium
△ tour . . . . . .Tourmaline
△ trap . . . . . .Trap rock
△ W. . . . . Tungsten
△ uran . . . . . Uraninite
△ U . . . . . .Uranium
△ verm . . . . . .Vermiculite
△ Y . . . . . Yttrium
△ Zn . . . . . .Zinc
△ zr . . . . . Zircon
▲perid. . . . . .Peridotite
▲chl. . . . . .Chlorite

Solid triangles indicate metal and mineral occurrences shown on the accompanying maps.

MINERAL OCCURRENCES

Map Ref. Letter	Name(s)	Mineralization	Source Mineral Deposit Record	References in OGS Mineral Deposits Circulars & OGS Industrial Mineral Reports	Additional References and/or Remarks
A	Bay Resources et Services Inc.	Au	-	Resident Geologist Assessment Files Kirkland Lake	+10 grains of gold/Cu foot of sand
B	Dome Exploration (Can.) Ltd.	Au	-	Resident Geologist Assessment Files Kirkland Lake	Quartz feldspar porphyry dike Quartz carbonate vein, with granular pyrite DDH #257-3 with 0.01oz/Ton
C	Hedman Mines Ltd.	serpentine filler Cu,Ni	C-0082	AFRO 1965, Warden Tp, DHR 10, OGS 1969, MRC 12, p.125-126 OGS 1971, IMR 36, p. 50-52, NMI File, 42A/9 ASB 1 ODM, Timmins, file T-531, ODM 1951, vol. 60, pt.8, p.40-43	Diamond drilling indicated some fibre in serpentinized peridotite sill. Ground has been acquired by Hedman Mines Ltd. Associate with the asbestos orebody, sulphides of copper, nickel and cobalt are present at the volcanic-peridotite contacts. A zone approx 2000 feet long gave the following results from a few surface and drill core samples: 1.64% Ni, 1.31% Cu; 0.37% Ni, 1.77% Cu; 0.53% Ni, 0.28% Cu; 1.60% Ni, 0.52% Cu.

GDIF FORM NO. 1

MINERAL OCCURRENCES

Map Ref. Letter	Name(s)	Mineralization	Source Mineral Deposit Record	References in OGS Mineral Deposits Circulars & OGS Industrial Mineral Reports	Additional References and/or Remarks
D	Stairs	serpentine filler	C 0081	AFRO 1973, #63.3172 OGS 1971, IMR 36, p.30, AFRO 1970, #2.211, AFRO 1965, Warden Tp. DHR 10	Diamond drilling 1949, 2 holes 500 feet; A little fibre in serpentinized peridotite; Claims allowed to lapse. Restaked and surveyed by Can. Johns-Manville Co. Ltd. in 1963-64 (magnetometer survey). Claims abondoned.
E	Noranda Expl. Co. Ltd.	Au	C 0080	AFRO 1978, Warden Tp. DHR 18 AERO 1978, #63.3557	DDH with pyrite and graphite noted in logs

WARDEN TOWNSHIP

MINERAL OCCURRENCES			Source Mineral Deposit Record	References in OGS Mineral Deposits Circulars & OGS Industrial Mineral Reports	Additional References and/or Remarks
Map Ref. Letter	Name(s)	Mineralization			

GDII FORM NO. 1

6 WARDEN TOWNSHIP

TYPE OF WORK		GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY			
EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE KIRKLAND LAKE		Numbers below represent the year in which the work was done; e.g., 68 for 1968.																		
	COMPANY/AUTHOR (file number)																			
1	Amax Minerals Exploration "Munro 2"	79							79	79		80								
2	Amax Minerals Expl. (potash) "Warden 3"	79			81															
3	Amax Minerals Exploration "Warden 5"	80																		
4	Amax Minerals Exploration "Warden 4"	80							78	78										
5	Amax Minerals Exploration	79											62	62						
6	Amax Mineral Exploration "Warden 1"	77			63								64	64						
7	Area Mines, Ltd.				65															
8	Area Mines Ltd.				68								86							
9	Bay Resources et Serv. Inc.		84																	
10	Broulan Reef Mines Ltd.				59								74	74						
11	Canaan Explorers Ltd.	74						74												

HABOEN TOWNSHIP

TYPE OF WORK	Numbers below represent the year in which the work was done; e.g., 68 for 1968.																		
EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE KIRKLAND LAKE COMPANY/AUTHOR (file number)	GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY	BIOGEOCHEMICAL		
12 Canadian Johns-Manville Co. Ltd.	70	70 72		49 65 68				83			70 64	70 64					71		
13 Canamax Resources Ltd.											77	77							
14 Denison Mines Ltd.	78 77										81								
15 Dome Exploration (Can.) Ltd. "Denison Option"				82															
16 Dome Exploration (Can.) Ltd. "Project 257"				85															
17 Foster, W.			84																
18 Hedman Mines Ltd.	59			60 62 63			62												
19 Hoyle Mining Co. Ltd.	43*																		
20 Dyman Prospecting Synd.				51	51 53 56														

GDIF FORM NO. 7

* - File missing

HARDEN TOWNSHIP

TYPE OF WORK		Numbers below represent the year in which the work was done; e.g., 68 for 1968.																		
EXPLORATION DATA filed at the RESIDENT GEOLOGIST'S OFFICE KIRKLAND LAKE COMPANY/AUTHOR (file number)		GEOLOGICAL	GEOCHEMICAL	TRENCHING, STRIPPING	DRILLING	ASSAY DATA	UNDERGROUND WORK	PROSPECTUS, NOTES, CORRESPONDENCE	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	AIRBORNE RADIOMETRIC	GROUND MAGNETOMETER	GROUND ELECTROMAGNETIC	GROUND RADIOMETRIC	INDUCED POLARIZATON	SELF POTENTIAL	RESISTIVITY	BASAL TILL SAMPLING	LUMINESCENT	
21	Imperial Oil Limited											74	74							
22	Kennco Expl. (Canada) Ltd. "Hanson Option included"	65	64 65		64 65				64 65	64 65					64					
23	McIntyre Porcupine Mines Ltd.	46										46 75	 75							
24	Mespi Mines Ltd.											59	59							
25	Noranda Expl. Co. Ltd.				78							77	77							
26	Paymaster Cons. Mines Ltd. "Stairs Option"												61							
27	Skannen, N.				49															
28	Stairs, Ivan C.				62							62	62			62				
29	Teck Corporation Ltd.																	75		
30	Union Carbide Expl. Ltd.									64		64								
31	Utex Gold "Grubstake"																		8	

MARDEN TOWNSHIP

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth	Initial Dip of Hole	Thickness of Overburden *	Total Length of Hole	Mineralization Noted in Log	Assay Data Included for
1	Amax Minerals Expl. (potash) "Warden III"	839-27-1†	5/81	270°	-60°	295'	640'	py,gf,calc	-
2	Area Mines Ltd.	149-1	6/63	180°	-52°	170'	272'	q,py,mar	-
3	Area Mines Ltd.	T-7	4/65	180°	-52°	50'	404'	py,cp,qcv,gf,po	-
4	" "	W68-1	7/68	180°	-52°	30.5'	405'	py,sp,qcv,gf	-
5	" "	W68-2	7/68	180°	-52°	35'	409'	py,sp,qcv,gf	-
6	Broulan Reef Mines Ltd.	WA-3	4/59	180°	-55°	105'	Abandoned at 105'	-	-
7	" "	WA-4	4/59	0°	-45°	12'	501'	-	-
8	" "	WA-1	3/59	180°	-45°	49'	506'	py,po,q	-
9	Canadian Johns-Manville Co. Ltd.	W-1	10/49		-45°	12'	100'	-	-
10	" "	W-2	10/49	0°	-45°	7'	400'	mag	-
11	" "	W65-1	11/65	199°	-45°	5'	927'	mag,cp,calc, serp,perid	-
12	" "	W65-2	11/65	180°	-45°	95'	860'	serp,calc,bruc, mag,perid	-
13	" "	W65-3	11/65	199°	-45°	34'	604'	cp,py,po,calc carb,gf	Au,Ag,Ni Zn

GDIP FORM NO. 3

† - Core stored at Swastika Drill Core Storage Library

* - Length of Overburden down drill hole

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth	Initial Dip of Hole	Thickness of Overburden *	Total Length of Hole	Mineralization Noted in Log	Assay Data Included for
14	Canadian Johns-Manville	W65-4	12/65	199°	-45°	5'	730'	qcv,py,cp serp,mag,bruc	-
15	" "	W68-1	8/68	180°	-45°	10'	440'	cp,carb,qcv,mc bruc,perid,serp	-
16	" "	W68-2	8/68	27°	-45°	10'	569'	perid,carb,serp asb,mag	-
17	Dome Exploration (Canada) Ltd. "Denison Option"	R-170-1	2/82	-	-90°	204'	210'	-	Au,As
18	Dome Exploration (Canada) Ltd. "Project 257"	257-2	9/85	230°	-50°	255'	980'	qvc,carb,cp py	Au
19	" "	257-3	9/85	230°	-50°	305'	925'	qcv,carb,cp py	Au
20	Hedman Mines Ltd.	H-34	2/63	12°	-45°	0'	200'	-	-
21	" "	H-19	62	90°	-45°	13'	416'	asb	-
22	" "	H-17	62	90°	-45°	5'	476'	asb	-
23	" "	H-8	62	90°	-45°	-	405'	asb	-
24	" "	#10	60	90°	-45°	8'	370'	asb	-
25	" "	#11	60	90°	-45°	57'	416'	asb	-

† - Core stored at Swastika Drill Core Storage Library
* - Length of Overburden down drill hole

GDIP F... M NO. 3

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth	Initial Dip of Hole	Thickness of Overburden *	Total Length of Hole	Mineralization Noted in Log	Assay Data Included for
26	Dyman Prospecting Synd.	W-6	9/53	280°	-80°	2'	68'	mag,asb,serp	-
27	" "	W-7	9/53	280°	-45°	3'	14'	mag,asb,serp	-
28	" "	W-1	7/51	180°	-45°	3'	254'	asb,mag,perid	-
29	" "	W-2	7/51	180°	-60°	0'	194'	asb,mag,perid	-
30	" "	W-3	8/51	360°	-40°	3'	344'	asb,mag,perid	-
31	" "	W-4	8/51	10°	-30°	5'	459'	asb,mag,perid	-
32	" "	W-5	8/51	10°	-50°	4'	159'	asb,mag,perid	-
33	" "	B-1	8/51	180°	-45°	0'	174'	asb,mag,perid	-
34	" "	B-2	8/51	260°	-45°	3'	78'	asb,mag,perid	-
35	" "	B-3	8/51	215°	-45°	3'	106'	asb,mag,perid	-
36	" "	B-14	12/53	180°	-45°	4'	206'	asb,mag,perid	-
37	" "	B-15	12/53	355°	-45°	2.5'	208'	chl,perid serp,mag.	-
38	" "	B-16	11/56	305°	-45°	3'	185'	chl,perid,cp serp,mag	-
39	" "	B-17	11/56	270°	-45°	3'	198'	perid,cp,chl, talc	-

ODIP FORM 3.3

† - Core stored at Swastika Drill Core Storage Library
* - Length of Overburden down drill hole

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth	Initial Dip of Hole	Thickness of Overburden *	Total Length of Hole	Mineralization Noted in Log	Assay Data Included for
40	Dyman Prospecting Synd.	B-18	11/56	120°	-45°	2'	260'	perid,cp,chl, talc	-
41	" "	B-19	11/56	120°	-60°	1'	267'	perid,cp,chl, talc	-
42	" "	B-21	11/56	360°	-50°	1'	262'	perid,cp,chl, talc	-
43	" "	B-7	9/53	360°	-45°	4'	112'	cp,serp,perid, po	-
44	" "	B-8	10/53	360°	-60°	2'	64'	cp,serp,perid, po	-
45	" "	B-9	11/53	358°	-60°	4'	140'	cp,serp,perid, po	-
46	" "	B-10†	11/53	10°	-45°	2'	152'	cp,serp,perid, po	-
47	" "	B-11†	11/53	320°	-45°	3'	153'	mag,perid,talc	-
48	" "	B-12	11/53	20°	-60°	3'	151'	mag,perid,talc	-
49	" "	B-13	12/53	270°	-80°	3'	167'	mag,perid,talc	-

GDIF FORM NO. 3

† - Core stored at Swastika Drill Core Storage Library
* - Length of Overburden down drill hole

WARDEN TOWNSHIP

DRILLHOLE SUMMARY

Map Drilling Location Number	Company Name	Company Drillhole Number	Date Drilled	Bearing Azimuth	Initial Dip of Hole	Thickness of Overburden *	Total Length of Hole	Mineralization Noted in Log	Assay Data Included for
50	Kennco Explorations (Canada) Ltd.	M-11	12/64	210°	-45°	13'	334'	py,cp	cu
51	" "	M-16	7/65	137°	-55°	275'	1175'	qcv	Au
52	" "	M-18	7/65	47°	-55°	261°	514'	qcv,carb	Au
53	" "	M-17	7/65	177°	-55°	166'	643'	cp,py,qcv	Au
54	" "	M-12	12/64	190°	-60°	156'	494'	cp,py,calc	Cu,Au
55	" "	M-10	11/64	180°	-45°	43'	251'	gf,cp,py,carb	-
56	" "	M-9	11/64	0°	-45°	53'	317'	carb,py,cp	Cu,Zn,Ag
57	" "	M-5A	11/64	0°	-55°	36'	226'	mag,py	-
58	" "	M-5	11/64	0°	-45°	48'	56'	-	-
59	Noranda Exploration Co. Ltd.	WAR-78-1	9/78	0°	-60°	184'	435'	py,gf	-
60	Skannen, N.	#1	10/49	0°	-45°	2'	167'	mag	-
61	Stairs, Ivan C.	#4	10/62	180°	-45°	0'	383'	cp	-
62	" "	#2	3/62	180°	-50°	0'	126'	gf,py,mag	-
63	" "	#3	9/62	180°	-50°	0'	500'	py,gf	-
64	" "	#1	3/62	180°	-50°	0'	114'	py	-

GOIF FORM NO. 3

† - Core stored at Swastika Drill Core Storage Library

AIRBORNE GEOPHYSICAL SURVEY DATA

No.	By For	Type of Survey	Flight Altitude	Flight Line Direction	Flight Line Spacing
1	Aerodat Limited Amax of Canada Ltd.	Electromagnetic Magnetic	72m (235')	NE-SW	125m (410')
6	Questor Surveys Limited Amax Potash Limited	Electromagnetic Magnetic	-	NE-SW	1320' (660m)
13	Aerodat Limited Canamax Resources Ltd.	Magnetic	-	N-S	150m (492')
22	Canadian Aero Mineral Surveys Ltd. Kennco Explorations (Can.) Ltd.	Electromagnetic Magnetic	150'	N-S	660' (201m)
30	Canadian Aero Mineral Surveys Ltd. Union Carbide Expl. Ltd.	Electromagnetic Magnetic	150'	ENE	660' (201m)

GEOCHEMICAL SURVEY DATA

Map Sample Site Reference Number	Type of Survey	Analysis For	By	Reference
9	Soil Sampling	Au, Hg	Bay Resources et Services Inc.	Kirkland Lake Resident Geologist Assessment Files
12	Soil Sampling, Tree Sampling, (stems)	Zn, Cu, Mo, Ni, Ag	Canadian Johns-Manville Co. Ltd.	Kirkland Lake Resident Geologist Assessment Files
17	Soil Sampling	Au, Hg	Bay Resources et Services Inc. optioned from Foster W. Matheson	Kirkland Lake Resident Geologist Assessment Files
22	Soil Sampling	Au, Hg	Kennco Exploration (Canada) Ltd.	Kirkland Lake Resident Geologist Assessment Files

GDII FORM P- 5

MISCELLANEOUS DATA

AGE DATING

Site	Method	Material	Reference	Result

Aerial Photographs

Black and White scale 1:1/4 mile
scale 1:1 mile

Landsat Data scale 1:500,000

Band 3 , 9/5/83
Band 4 , 31/2/83
Bands 1+2+4 , 2/10/83
Bands 1+2+4 , 9/5/83

GDIF FORM NO.6

NEWSPAPER CLIPPINGS FILE

NOTE: A file of newspaper clippings about the companies listed below, who have worked in this area, is maintained in the Regional/Resident Geologist's Office. Kirkland Lake

Bay Resources			
	The Northern Miner	Feb 28, 1985	Apr 11, 1985
Hedman			
	The Northern Miner	May 20, 1968	
Hedman Mines			
	Canadian Mining Journal	no date	Jun --, 1966
		Jul --, 1967	
	The Northern Miner	Oct 27, 1966	Apr 20, 1967
		May 25, 1967	Jun 22, 1967
		Jul 11, 1968	Oct 03, 1968
		Jan 09, 1969	Jan --, 1981
		Mar --, 1981	Nov 29, 1984
		Feb 10, 1985	Aug 01, 1985
		Feb 10, 1986	Apr 28, 1986
		May 26, 1986	Jul 28, 1986

ODM GENERAL INDEX SEARCH

Words searched:

Potter Doal Mines
Potter Doal Copper Mines
Serpentine and Asbestos
Shallow River
Warden Township

Index Volume	Listing:	Report Volume	Part	Page
1	Warden Tp., Tim.			
	Map of Portion with	24	1	
	Ref to	24	1	171
	Serpentine	24	1	176
	photo	24	1	175
	Soil, analysis	14	1	246
2	Warden Tp., Coch.			
	see also - Shallow River			
	Acid intrusives	28	2	34
	see also below Serpentine and asbestos			
	Diabase	28	2	28
	Forest fires	28	2	6
	Keewatin rocks	28	2	22,25,3[illegible]
	Serpentine and asbestos	26		273
	" "	28	2	31,66
	magnetite in, I.O. 210	28	2	28
	photo	28	2	65
	Shallow River, Black River, Tim.			
	Gold prospecting	28	2	63
	Gravel	28	2	5,67
	Pleistocene deposits near mouth	28	2	39
	Quartz Porphyry	28	2	22
	altered schists	28	2	35
	Xenoliths	28	2	28
	Serpentine and Asbestos			
	Warden Tp. associated with iron ore, I.O.			210
3	Warden Tp., Coch.			
	Copper mg. see Potter Doal Mines			
	Potter Doal Mines			
	see also Potter Doal cu. m.			
	Capital; officers; operations: (1926)	36	1	88,89
	(1927)	37	1	84
	Potter Doal Copper Mines, Munro Tp.			
	Gold from ores	40	1	7
	Operations	36	1	89
	" "	37	1	84
	Report and plan	37	3	35-41
5	Warden Tp., Coch.			
	Asbestos claims	60	8	41
	Copper claims	60	8	42
	Rocks	60	8	17-19,25

GDIF FORM NO. 8

ODM GENERAL INDEX SEARCH

Words searched:

Index Volume	Listing:	Report Volume	Part	Page
8	Warden Tp., Coch.			
	Asbestos	AR074		153
		AR075		148
		AR075		174-175
		AR077		164-165
		AR078		130-131
		AR079		130
		AR080		137
		IMR036		50,53,56
		MP018		20
		MP025		24
	Iron	MRC011		130
9	Warden Tp., Coch.			
	Gravity Survey of Tim-Matheson area	GR135		
	Placer Gold	MDC017		165

GDIF FORM NO. 8

SELECTED REFERENCES

Author	Date	Title	Reference	Map Scales and/or Report Pages
		REGIONAL GEOLOGICAL COMPILATION MAPS		
Ayers, L.D. Lumbers, S.B. Milne, V.G. Robeson, D.W.	1970	Ontario Geological Map	ODMNA Map 2196	1:1 013 760
Ayers, L.D. Lumbers, S.B. Milne, V.G. Robeson, D.W.	1971	Ontario Geological Map, East Central Sheet	ODMNA Map 2198	1:1 013 760
Boissoneau, A.N.	1965	Algoma-Cochrane Surficial Geology, Ontario	ODL & F Map S365	1:506 880
Card, K.D. Sanford, B.V.	1983	Geology of the Timmins Map Sheet (NM-17)	GSC OF 956	1:1 000 000
Easton, R.M.	1986	Geochronology Compilation Map for Ontario: Sheet 3: East-Central Ontario, All Isotopic Systems	OGS Map P.2842	1:1 013 760
Ginn, R.M.	1964	Timmins-Kirkland Lake Sheet, Cochrane, Sudbury and Timiskaming Dists., Ont. Geol. Compilation Series	ODM Map 2046	1:253 440
Ginn, R.M. Fenwick, K.F.	1962	Iroquois Falls-Lake Abitibi Sheet, District of Cochrane	ODM Map P.140	1:126 720
Gordon, J.B.	1977	Gold Deposits of Ontario, East Central Sheet	OGS Map P.1228	1:1 013 760
Gordon, J.B.	1980	Vein Silver Deposits of Ontario, East Central Sheet	OGS Map P.2300	1:1 013 760
Guillet, G.R.	1977	Clay and Shale Deposits of Ontario	OGS Map 2358 (MDC 15)	1:200 000

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Author	Date	Title	Reference	Map Scales and/or Report Pages
Jost, M.	1977	Nickel Deposits of Ontario, East Central Sheet	OGS Map P.1062	1:1 013 760
Lumbers, S.B. Milne, V.G.	1979	Ontario Geological Map, Explanatory Text, Legend and Diagrams of Major Lithologies, Structures and Zones of Metamorphism	OGS Map 2391	1:1 013 760
Lumbers, S.B. Milne, V.G.	1979	Ontario Geological Map, East Central Sheet	OGS Map 2393	1:1 01[illegible] 760
McCrank, G.F. Brown, P.A. Misiura, J.D.	1980	Plutonic Rocks in Ontario, with map.	GSC OFR 706	
MERQ-OGS	1984	Lithostratigraphic Map of the Abitibi Subprovince	OGS Map 2484 Que Map DV83-16	1:500 [illegible]00
Meyn, H.D. Howarth, J.R.	1977	Molybdenum Deposits of Ontario, East Central Sheet	OGS Map P.1246	1:1 01[illegible] 760
Meyn, H.D. Robertson, J.A.	1975	Iron Deposits of Ontario, East Central Sheet, Districts of Thunder Bay, Algoma, Cochrane, Sudbury, Timiskaming and Nipissing	ODM Map P.1043	1:1 01 760
Ministry of Natural Resources	1985	Ontario Mineral Map	ODM Map 2472	1:1 58 000
Minnes, D.G. Masham, J.S. Scott, D.W. Vos, M.A. & Yundt, S.E.	1983	Industrial Minerals of Ontario	OGS Map P.2591	1:1 5[illegible] 000
ODM	1969	Mining Divisions and Resident Geologists Districts	ODM Map 2189	1:1 5[illegible] 000
ODM	1974	Ontario Mineral Map	ODM Map 2310	1:1 58[illegible] 000

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Author	Date	Title	Reference	Map, Scales and/or Report Pages
ODM	1977	Ontario Geology and Principal Minerals	ODM Map 2389 (Rev.)	1:4 224 000
ODMNA	1971	Ontario Geology and Principal Mineral Collecting Localities, Discover Ontario	ODMNA Map 2211	1:4 224 000
OGS	1986	Geological Highway Map, Northern Ontario	OGS Map 2506	1:1 600 000
Pyke, D.R., Ayres, L.D. Innes, D.G.	1973	Timmins - Kirkland Lake, Geological Compilation Series, Cochrane, Sudbury and Timiskaming Districts	ODM Map 2205	1:253 440
Robertson, J.A.	1976	Mineral Potential Map of Ontario, East Central Sheet	ODM Map P.1099	1:1 013 760
Robertson, J.A.	1982	Uranium and Thorium Deposits of Ontario, East Central Sheet, NTS 31/NW, 32/W, 41/N, 42	OGS Map P.2426	1:1 013 760
Springer, J.	1977	Ontario Mineral Potential, Timmins Sheet and Part of Noranda-Rouyn Sheet, Districts of Sudbury, Timiskaming and Cochrane	OGS Map P.1517	1:250 000
		GEOPHYSICAL MAPS		
Data Plotting Services Inc.	1984	Matheson-Black River Area (BRIM) Magnetic Survey Total Field, based on Airborne Electromagnetic and Total Intensity Magnetic Survey, Matheson-Black River Area, by Questor Surveys Ltd. for the OGS. (1984)	MNDM Resident Geologist's Office, Kirkland Lake, Ontario	1:80 000
Data Plotting Services Inc.	1985	Matheson-Black River Area (BRIM) Airborne Magnetic Survey Second Vertical Derivative based on Airborne Electromagnetic and Total Intensity Magnetic Survey, Matheson-Black River Area, by Questor Surveys Ltd. for the OGS. (1984)	MNDM Resident Geologist's Office, Kirkland Lake, Ontario	1:100 000

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Author	Date	Title	Reference	Map Scales and/or Report Pages
Dighem Surveys and Processing Inc.	1986	"Enhanced Shadow" Magnetics, Black River-Matheson Area (BRIM) based on Airborne Electromagnetic and Total Intensity Magnetic Survey, Matheson-Black River Area, by Questor Surveys Ltd. for the OGS. (1984)	MNDM Resident Geologist's Office, Kirkland Lake, Ontario	1:100 000
GSC	1970	Matheson, Cochrane District, Aeromagnetic Series	GSC Map 296G	1:63 360
GSC	1970	Timmins, Cochrane, Timiskaming and Sudbury Districts, Ontario Total Field Contour Map	GSC Map 7085G	1:250 000
GSC	1970	Matheson, Cochrane District, Ontario, Aeromagnetic Series	GSC Map 8431G	1:31 680
GSC	1970	Matheson, Cochrane District, Ontario, Aeromagnetic Series	GSC Map 8434G	1:31 680
GSC	1970	Matheson East, NTS 42A/9b, (High Resolution Aeromagnetic)	GSC Map 20 153	1:25 000
GSC	1970	Matheson East, NTS 42A/9g, (High Resolution Aeromagnetic)	GSC Map 20 154	1:25 000
ODMNA	1971	Aeromagnetic Survey, Total Intensity Contours, Warden Township	ODMNA Map P.642	1:15 840
ODMNA	1971	Helicopter Gamma-Ray Spectrometer Survey, Total Count Contours, Warden Township	ODMNA Map P.648	1:15 840
ODMNA	1971	Helicopter Radiophase Survey, In-Line/In-Phase Contours, Warden Township	ODMNA Map P.660	1:15 840
ODMNA	1971	Helicopter E-Phase Survey, Apparent Resistivity Contours, Warden Township	ODMNA Map P.654	1:15 840

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Author	Date	Title	Reference	Map Scales and/or Report Pages
ODMNA	1974	Aeromagnetic Index of Ontario	ODMNA Map 2229	1:1 900 800
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric Total Count, Timmins, NTS 42A	OGS Map 80 280 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric Potassium (Percent), Timmins, NTS 42A	OGS Map 80 281 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric Uranium (eU), Timmins, NTS 42A	OGS Map 80 282 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric Thorium (eTh), Timmins, NTS 42A	OGS Map 80 283 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric eU/Th Ratio, Timmins, NTS 42A	OGS Map 80 284 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric eU/K Ratio, Timmins, NTS 42A	OGS Map 80 285 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric eTh/K Ratio, Timmins, NTS 42A	OGS Map 80 286 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric Profiles of Integral U, Th, K, U/Th, U/K, Th/K for line 60 (1), Timmins, NTS 42A	OGS Map 80 315 GSC Map 35142G	1:250 000
OGS-GSC	1979	Airborne Gamma-Ray Spectrometric Profiles of Integral U, Th, K, U/Th, U/K, Th/K for line 61 (1), Timmins, NTS 42A	OGS Map 80 316 GSC Map 35142G	1:250 000

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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Baker, C.L. McClenaghan, M.B. Steele, K.G.	1985	Reconnaissance Heavy Mineral and Geochemical Sampling of the Munro Esker, Lake Abitibi Area, Cochrane District	OGS MP 126	p.297-300
Baker, C.L. Steele, K.C.	1984	Sonic Drilling-Exploration Basics in the Matheson Area (Abstract)	OGS Geo. Sci. Seminar & Open House '85	p.23
Baker, C.L. Steele, K.G. McClenaghan, M.B.	1985	Reconnaissance Till Sampling Program, Matheson-Lake Abitibi Area, Cochrane District	OGS MP 126	p.329-333
Baker, C.L. Steele, K.G. McClenaghan, M.B.	1986	Gold Grains in Sonic Drill Core Samples (1985) from the Lake Abitibi-Matheson Area, District of Cochrane	OGS Map P.2958	1:100 000
Barlow, R.B. Pitcher, D.H.	1984	An Airborne Electromagnetic-Magnetic Survey of the Black River-Matheson (BRIM) Area, District of Cochrane	OGS MP 119	p.287-289
Bath, A.C.	1985	Black River-Matheson Economic Geologist Program	OGS MP 126	p.301-311
Bath, A.C.	1985	Black River-Matheson Economic Geologist Program (Abstract)	OGS Geo. Sci. Seminar & Open House '85	p.8
Bath, A.C.	1986	Black River-Matheson Economic Geologist Program	OGS MP 132	p.421-430
Bright, E.G.	1969	1968 Report of the Timmins Resident Geologist	ODM MP 25	p.13-33

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Fortescue, J.A.C.	1984	Summary of Activities 1984, BRIM Program	OGS MP 119	p.274-277
George, P.T.	1968	1967 Report of the Timmins Resident Geologist	ODM MP 18 pt. 3	p.17-45
GSC	1981	Magnetic Anomaly Map, Timiskaming-Kapuskasing Region	GSC Map 1563A	1:1 000 000
Gulliet, R.	1969	Ontario Marl Deposits	ODM Map 2183	1:1 013 760
Hewitt, D.F. Satterly, J.	1953	Asbestos in Ontario	ODM Indust. Min. Circ. No. 1	
Hewitt, D.F. Vos, M.A.	1972	Ontario Limestone Quarries, 1971	ODM Map 2264 (Rev.)	1:1 013 760
Hodgson, C.J.	1983	Preliminary Report on the Timmins-Kirkland Lake Area Gold Deposits File	OGS OFR 5467	434p.
Hopkins, P.E.	1959	The Beatty-Munro Gold Area, Timiskaming District	ORM Map 24A AR v.24, pt.1	1:63 36 p.171-134
Hughes, O.L.	1959	Surficial Geology of Iroquois Falls, Cochrane District, Ontario	GSC Map 46-1959	1:126 720
Hurst, M.E.	1943	Abitibi-Timiskaming Area, Districts of Cochrane and Timiskaming	ODM Map 1934A	1:126 720
Jensen, L.S.	1985	Geological Overview of the BRIM Area (Abstract)	OGS Geo. Sci. Seminar & Open House '85	p.6

GDIF FORM NO.9

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Jensen, L.S. Langford, F.F.	1983	Geology and Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake Area, Ontario	OGS OFR 5455	520p.
Jensen, L.S. Langford, F.F.	1985	Geology and Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake Area, Ontario	OGS MP 123	130p.
Johnstone, R.	1986	Precambrian Geology of the Black River-Matheson Area, Cochrane District	OGS OFM 50	
Johnstone, R.	1986	Precambrian Geology of Coulson, Warden, and Milligan Townships, Black River-Matheson (BRIM) Area, Cochrane District	OGS MP 132	p.392-397
Johnstone, R. Trowell, N.F.	1985	Precambrian Geology of the Black River-Matheson (BRIM) Area, District of Cochrane	OGS MP 126	p.291-296
Kelly, T.J. Riddell, G.S.	1962	Statistical Review of the Mineral Industry for 1960	ODM AR v. 70	148p.
Kelly, T.J. Riddell, G.S.	1963	Statistical Review of the Mineral Industry and Mining Operation for 1961	ODM AR 1961 v. 71	
Kelly, T.J. Riddell, G.S.	1964	Statistical Review of the Mineral Industry and Mining Operations for 1962	ODM AR 1963 v. 72	
Knight, C.W. Burrows, A.G. Hopkins, P.E. Parons, A.L.	1919	Gold Area Between Lakes Abitibi and Night Hawk, Timiskaming District	ORM Map 28B AR 28, pt.2	1:126 720 p.1-70

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Lee, H.A.	1979	Northern Ontario Engineering Geology Terrain Study, Data Base Map, Iroquois Falls	OGS Map 5027	1:1 [illegible] 000
Lovell, H.L.	1970	1969 Report of the Kirkland Lake Resident Geologist	ODM MP 35	p.1 -6
Lovell, H.L.	1971	1970 Report of the Kirkland Lake Resident Geologist	ODM MP 46	p.3 -56
Lovell, H.L.	1972	1971 Report of the Kirkland Lake Resident Geologist	ODM MP 50	p.4 -67
Lovell, H.L. Caine, T.W.	1970	Lake Timiskaming Rift Valley	ODM MP 39	
Lovell, H.L. de Grijs, J.W.	1974	1973 Report of the Kirkland Lake Resident Geologist	ODM MP 57	p.31-57
Lovell, H.L. Frey, E.D.	1972	Warden Township, District of Cochrane	ODM Map P.775	1:15 840
Lovell, H.L. Grabowski, G.	1982	1981 Report of the Kirkland Lake Resident Geologist	OGS MP 101	p.93-116
Lovell, H.L. Grabowski, G. Guindon, D.	1983	1982 Report of the Kirkland Lake Resident Geologist	OGS MP 107	p.107-129
Lovell, H.L. Grabowski, G. Guindon, D. Bath, A.C.	1986	Kirkland Lake Resident Geologist Area, Northern Region	OGS MP 128	p.179-212
Lovell, H.L. Ploeger, F.R.	1977	1976 Report of the Kirkland Lake Resident Geologist	OGS MP 71	p.81-94

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Lovell, H.L. Ploeger, F.R.	1979	1978 Report of the Kirkland Lake Resident Geologist	OGS MP 84	p.68-88
Lovell, H.L. Ploeger, F.R.	1980	1979 Report of the Kirkland Lake Resident Geologist	OGS MP 91	p.77-96
Malczak, J.	1985	Industrial Mineral Potential of the Black River-Matheson (BRIM) Area, District of Cochrane	OGS MP 126	p.326-328
Malczak, J.	1985	Overview of the Industrial Mineral Potential of the Black River-Matheson (BRIM) Area (Abstract)	OGS Geo. Sci. Seminar & Open House '85	p.9
Matten, E.E.	1977	Statistical Report on the Mineral Industry of Ontario, 1971-1973	MNR v. 4-6	
McClenaghan, M.B.	1985	Backhoe Sampling and Analytical Procedures: Fingerprinting the Drift (Abstract)	OGS Geo. Sci. Seminar & Open House '85	p.10
Middleton, R.S.	1976	Gravity Survey of Geological Structures in the Timmins and Matheson Area, NTS 42A, Cochrane, Sudbury and Timiskaming Districts	ODM GR 135 Maps 2321 2322	
MNR	1973	Annual Review Mineral Industry 1972	MNR	
MNR	1974	Ontario Mineral Review 1973	MNR	
MNR	1975	Ontario Mineral Review 1974	MNR	
MNR	1976	Ontario Mineral Review 1975	MNR	

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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ODM	1968	1967 Review of the Ontario Department of Mines	ODM AR	
ODM	1969	1968 Review of the Ontario Department of Mines	ODM AR	
ODM	1970	1969 Ontario Department of Mines Review	ODM AR	
ODMNA	1970	Descriptive Notes for Multi-Sensor Helicopter Borne Geophysical Survey of Warden, Coulson, Beatty, Munro, Hislop and Guibord Townships	ODMNA	
ODMNA	1971	Ontario Department of Mines and Northern Affairs Review 1970	ODMNA	
ODMNA	1972	Ontario Department of Mines and Northern Affairs Review 1971	ODMNA	
OGS	1984	Ontario Mineral Deposit Inventory	OGS OFR 5470	
OGS	1986	Sonic Drillhole 85-11, Warden Township, Cochrane District	OGS Map 80 854	1:100 000
Pitcher, D.H.	1985	A Correlation of Airborne and Ground Electromagnetics With Sonic Drilling Results in the Black River-Matheson Area	OGS MP 126	p.334-340
Pitcher, D.H. Barlow, R.B. McNeill, J.D.	1984	Mapping the Overburden in Black River-Matheson (BRIM) Area, District of Cochrane, employing an airborne time-domain system	OGS MP 119	p.299-307
Riddell, G.S.	1965	Statistical Review of the Mineral Industry and Mining Operations for 1963	ODM AR v.73	

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Author	Date	Title	Reference	Map Scales and/or Report Pages
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Riddell, G.S.	1968	Statistics of the Mineral Industry and Mining Operations in Ontario for 1966	ODM AR v.76	
Riddell, G.S.	1968	Statistics of the Mineral Industry and Mining Operations in Ontario for 1965	ODM AR v.75	
Riddell, G.S.	1969	Statistics of the Mineral Industry and Mining Operations in Ontario for 1967	ODM AR v.77	
Riddell, G.S.	1970	Annual Report on Mining Operations in Ontario	ODM AR 1968 v.78	
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Ministry of Northern Development and Mines

Ontario

Sean Conway, Minister of Mines

ONTARIO GEOLOGICAL SURVEY

PROPERTY LOCATION MAP

GEOLOGICAL DATA INVENTORY FOLIO 381

(Map 1 of 2)

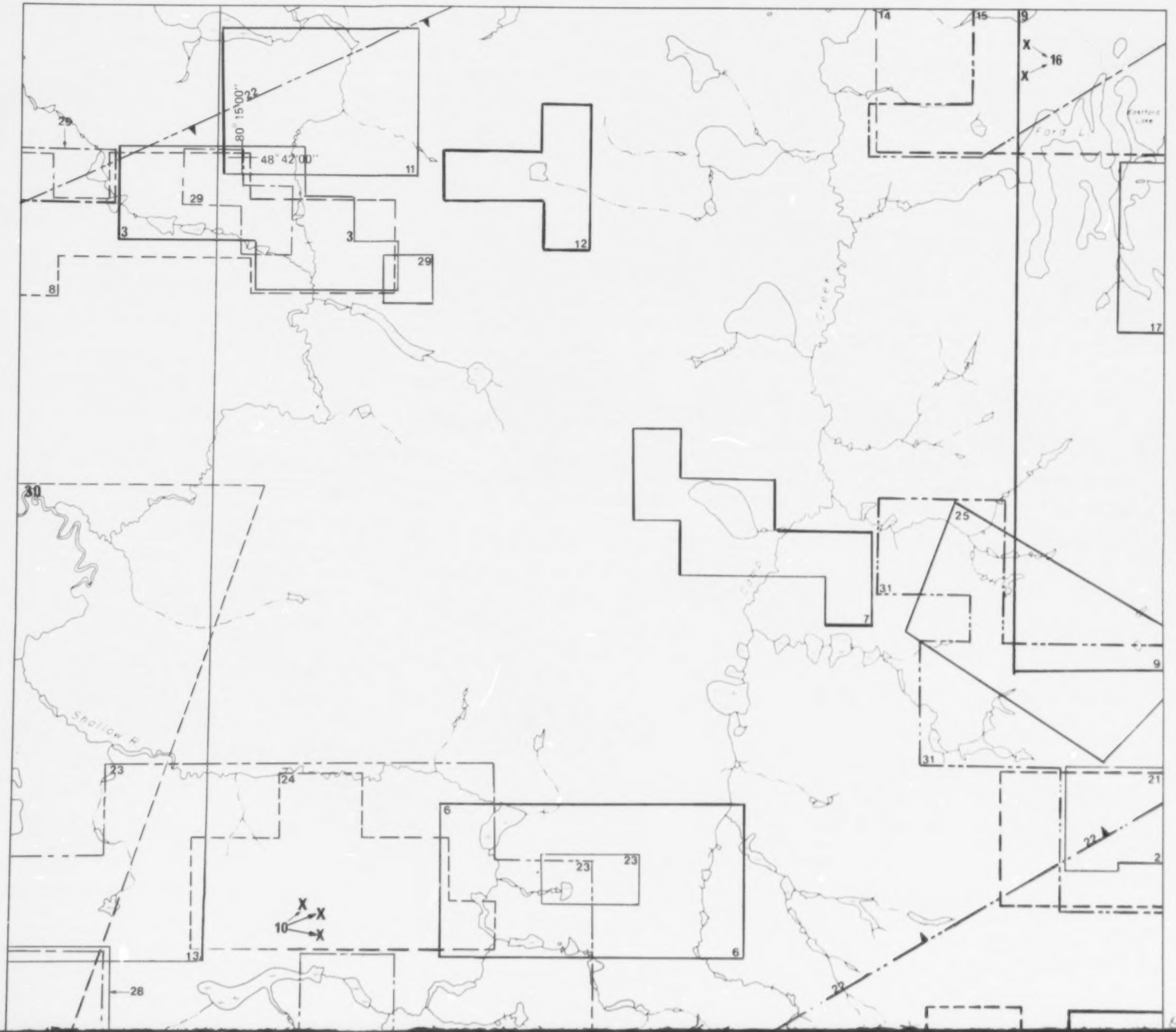
WARDEN TOWNSHIP

DISTRICT OF COCHRANE

Scale 1:31 680

Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile



EXPLORATION DATA FILE AREAS

Reference number is always inside work area outlined.

ONTARIO GEOLOGICAL SURVEY

PROPERTY LOCATION MAP

GEOLOGICAL DATA INVENTORY FOLIO 381

(Map 1 of 2)

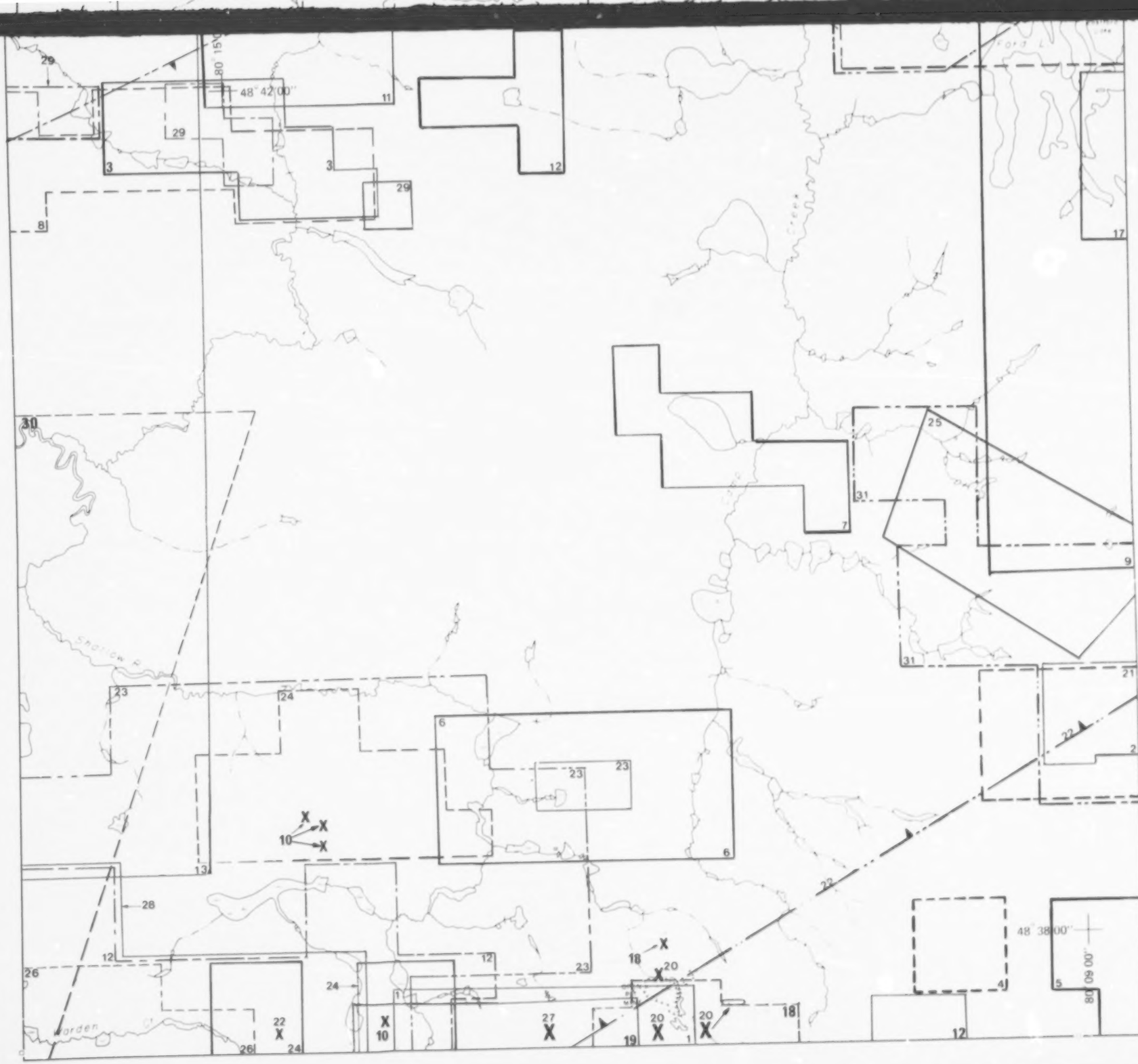
WARDEN TOWNSHIP

DISTRICT OF COCHRANE

Scale 1:31 680

Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile



EXPLORATION DATA FILE AREAS

- Reference number is always inside work area outlined. See listing in text pages.
- Small area exploration.
- File covers whole township or area

TYPES OF DATA SHOWN ON THIS MAP

GEOCHEMICAL AND GEOCHRONOLOGICAL DATA

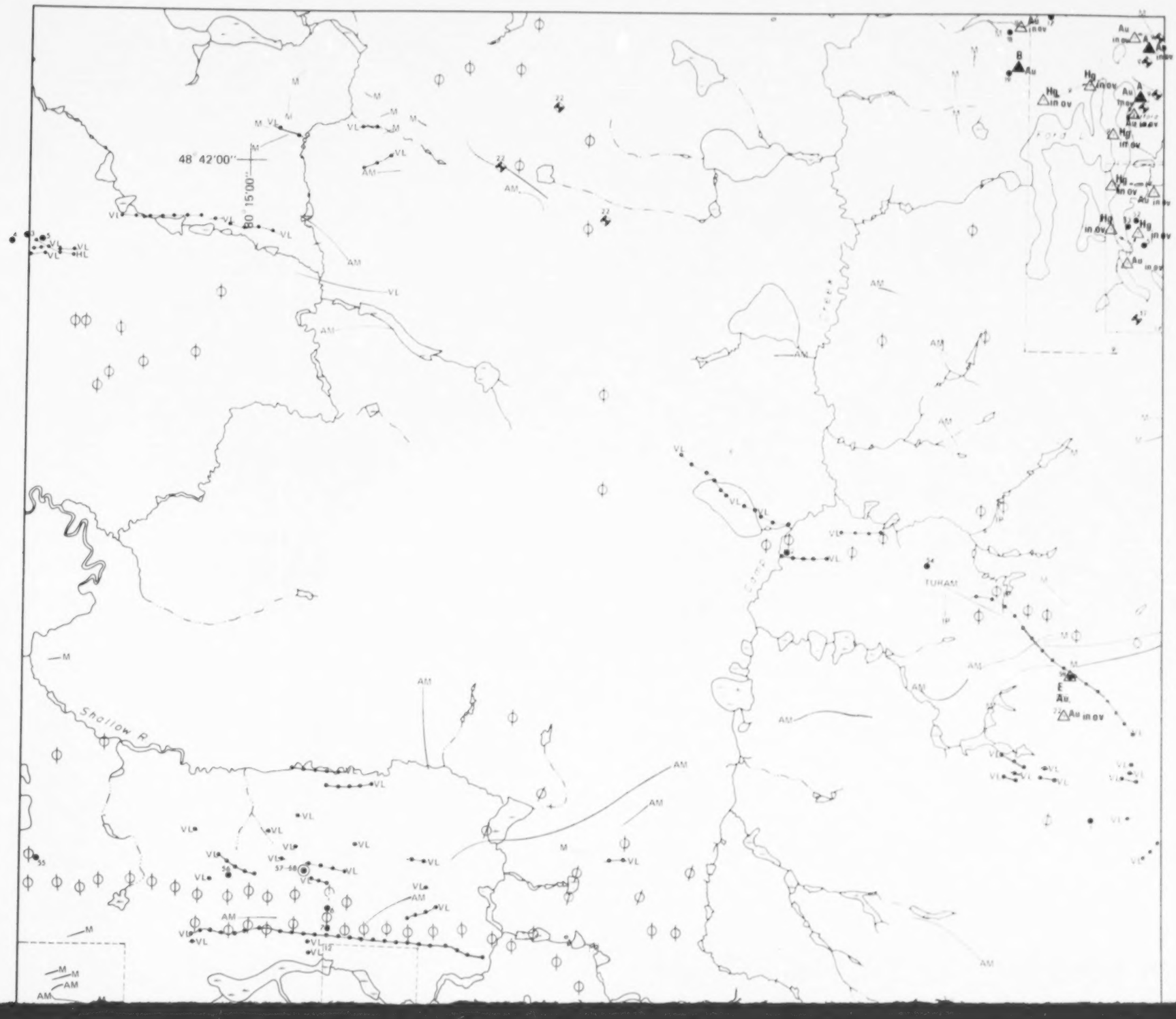
- Geochemical sample site, with reference number
- Area of geochemical sampling, with reference number
- Age dating material sampling site, with reference number

GEOPHYSICAL ANOMALIES

- Airborne magnetic anomaly
- Airborne electromagnetic anomaly
  Length of anomaly along flight line
- Airborne electromagnetic anomaly
  Location of anomaly along flight line
- Airborne electromagnetic anomaly
  Conductor axis : definite, probable, possible
- Airborne radiometric anomaly
- Ground magnetic anomaly
- Ground electromagnetic anomaly
  (VL - Vertical loop; HL - Horizontal loop
  VLF - Very low freq; Turam; JEM - Crone Em - 16)
- Ground radiometric anomaly
- Induced polarization anomaly
- Self potential anomaly
- Audio frequency magnetic anomaly (total intensity)
- Resistivity anomaly
- Gravity anomaly

MISCELLANEOUS DATA

- Trenching, pit
- Rock quarry
- Adit
- Sand and or gravel pit
- Open pit



Ministry of Northern Development and Mines

Ontario

Sean Conway, Minister of Mines

ONTARIO GEOLOGICAL SURVEY

EXPLORATION DATA MAP

GEOLOGICAL DATA INVENTORY FOLIO 381

(Map 2 of 2)

WARDEN TOWNSHIP

DISTRICT OF COCHRANE

Scale 1:31 680

Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile

GEOLOGICAL AND MINING SYMBOLS

TYPES OF DATA SHOWN ON THIS MAP

MINERAL OCCURRENCES

- Mineral occurrence at surface, with reference letter
- Mineral occurrence with shaft, depth given with reference letter
- Mineral occurrence reported but exact location uncertain, with reference letter
- Mineralized float with reference letter
- Mineral occurrence in drillhole, with reference letter, and drillhole number

DRILLHOLES

- Location of single drillhole, with reference number
- Location of closely spaced group of drillholes, with reference number
- Drillhole: exact location uncertain, with reference number
- Property with underground drillholes in this general area, with reference number

ONTARIO GEOLOGICAL SURVEY

GEOPHYSICAL ANOMALIES

- AM — Airborne magnetic anomaly
- Airborne electromagnetic anomaly
  Length of anomaly along flight line
- Airborne electromagnetic anomaly
  Location of anomaly along flight line
- Airborne electromagnetic anomaly
  Conductor axis: definite, probable, possible
- ARA — Airborne radiometric anomaly
- GM — Ground magnetic anomaly
- VL — Ground electromagnetic anomaly
  (VL : Vertical loop; HL : Horizontal loop
  VLF : Very low freq; Turam; JEM
  Crone Em - 16)
- RA — Ground radiometric anomaly
- IP — Induced polarization anomaly
- SP — Self potential anomaly
- AEMAG — Audio frequency magnetic anomaly
  (total intensity)
- R — Resistivity anomaly
- GR — Gravity anomaly

MISCELLANEOUS DATA

- Trenching pit
- Adit
- Open pit
- Rock quarry
- Sand and or gravel pit

NOTE: Consult the text that accompanies this map for pertinent lists of data, references, and or explanations.

ONTARIO GEOLOGICAL SURVEY

EXPLORATION DATA MAP

GEOLOGICAL DATA INVENTORY FOLIO 381

(Map 2 of 2)

WARDEN TOWNSHIP

DISTRICT OF COCHRANE

Scale 1:31 680

Kilometre 0.5 0 0.5 1 Kilometre

Mile 0.5 0 0.5 1 Mile

GEOLOGICAL AND MINING SYMBOLS

TYPES OF DATA SHOWN ON THIS MAP

MINERAL OCCURRENCES

- cp A — Mineral occurrence at surface, with reference letter
- Au A 84 — Mineral occurrence with shaft, depth given with reference letter
- Ag A — Mineral occurrence reported but exact location uncertain, with reference letter
- cp A — Mineralized float with reference letter
- cp A — Mineral occurrence in drillhole, with reference letter, and drillhole number

DRILLHOLES

- Location of single drillhole, with reference number
- Location of closely spaced group of drillholes, with reference number
- Drillhole, exact location uncertain, with reference number
- Property with underground drillholes in this general area, with reference number
- Property with drillholes which have not been plotted on map, with reference number
- Reverse circulation drillhole, churn drilling, with reference number

Shallow R.

Serp filler

Serp filler Cu,Ni

Warden

TURAN

48° 38' 00"

80° 15' 00"

80° 08' 00"